

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-244243

(43)Date of publication of application : 14.09.1999

(51)Int.Cl.

A61B 3/117

A61B 3/10

A61B 5/00

A61B 10/00

G01N 21/27

G01N 21/41

G01N 33/66

(21)Application number : 10-052071

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(22)Date of filing : 04.03.1998

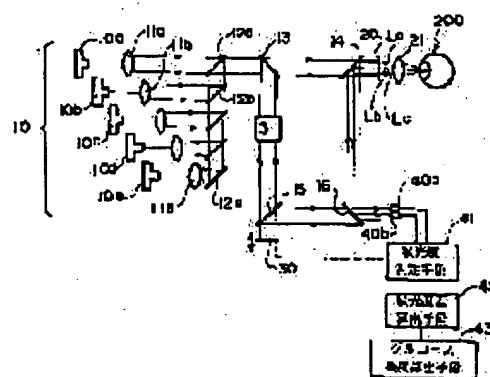
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(54) GLUCOSE CONCENTRATION MEASURING METHOD AND DEVICE THEREOF

(57)Abstract:

PROBLEM TO BE SOLVED: To precisely measure concentration of glucose contained in aqueous humor in an eyeball in a non-invasive manner.

SOLUTION: Light 1a, 1b passing through openings formed at different positions of an aperture 20 enters an eyeball 200 so that the light is collected at the same point of the eyeball 200 and that lengths of optical paths in aqueous humor differ from each other. Absorbance is obtained per luminous flux passing through each opening by an absorbance measuring means 41 based on interfering light of each rear scattering light (reflected light) from each boundary face of the eyeball 200 and reference light modulated by a modulator 31 per opening, and a difference in absorbance among these luminous fluxes is obtained by an absorbance difference calculation means 42 to offset changes of a refraction factor depending on changes of the concentration of aqueous humor.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

rejection]

[Date of extinction of right]

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(43)公開日 平成11年(1999)9月14日

審査請求 未審査 請求項の数5 OL (全10頁) 最終頁に続く

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【解決手段】 アパーチャ20の互いに異なる位置に形成された開口を通過した光La、Lbを、眼球200の同一点で集光するように、かつ眼房水中における光路長が互いに異なるように、眼球200に入射せしめ、各開口ごとに眼球200の各境界面からの各後方散乱光（反射光）と変調器31で変調された参照光との干渉光に基づいて吸光度測定手段41により各開口を通過した光束ごとに吸光度を求め、吸光度差算出手段42によりこれらの光束間での吸光度差を求めることで、眼房水の濃度変化に依存する屈折率変化を相殺する。

